Statement of

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Good afternoon, Chairman Rogers, Ranking Member Jackson-Lee, and distinguished members of the Subcommittee. Thank you for the opportunity to testify today about the Transportation Security Administration's (TSA) use of technology that supports our layered approach to securing the nation's transportation systems while ensuring freedom of movement for people and commerce. To accomplish this mission, we employ risk-based, intelligence-driven operations to prevent terrorist attacks and reduce the vulnerability of the Nation's transportation system. While no layer on its own addresses all risk, in combination they create a strong and formidable system.

Last fall, TSA Administrator John S. Pistole directed the agency to explore ways to develop a strategy for achieving risk-based security. I am pleased to have an opportunity today to discuss with the Subcommittee the processes employed by TSA to advance innovation through new technologies that strengthen our multi-layered security system.

Creating Innovative Solutions by Partnering with Industry

TSA has forged a number of partnerships to develop and deliver solutions to combat emerging and evolving threats to transportation security. Specifically, TSA works with the DHS

Science and Technology Directorate (S&T) to create innovative solutions to threats and challenges. TSA also collaborates with the private sector including national labs, federally funded research and development corporations (FFRDCs), universities, and other qualified vendors at industry days, technical forums, conferences, and program reviews.

Collaborative Approaches to Technology Innovation

TSA is also working closely with trade associations that focus on homeland security issues to share its vision with industry stakeholders. Since early 2010, TSA has issued an annual Broad Agency Announcement (BAA) to collect innovative concepts from industry to inform future decisions for research and development (R&D) efforts and to identify innovation already available in the marketplace. In the last year, TSA pursued several submissions for proof of concept demonstrations focused on insider threat analysis, behavior detection, and explosive detection, and is currently reviewing numerous other proposals.

Advancing Aviation Security with Technology Investments

To address the evolving threats to aviation, TSA continues to advance security by investing in innovative technologies, improving workforce efficiencies, and pursuing initiatives to further standardize and integrate equipment. Such advancements and initiatives include:

Advanced Imaging Technology and Automated Target Recognition

Advanced Imaging Technology (AIT) helps Transportation Security Officers (TSOs) screen passengers for metallic and non-metallic explosives as well as other non-metallic threats. Currently, there are more than 500 AIT units at nearly 100 airports. Two months ago, TSA purchased an additional 300 machines, which are being deployed with Automated Target Recognition (ATR) software. ATR software upgrades are designed to further enhance passenger privacy by eliminating passenger-specific images and instead displaying a generic outline of a person that is identical for all passengers. By removing the need for an officer to view images in a remote location, the use of the software also improves throughput capabilities of the technology and streamlines the checkpoint screening process. The ATR software provides the same high level of detection as AIT without the software and it allows for more targeted pat-downs because of the manner in which anomalies are displayed. The President's fiscal 2012

budget requests funding for an additional 275 AIT units. The availability of this equipment supports long-term needs while increasing efficiencies at checkpoints with even more effective ATR software and a reduced footprint, which will inform future deployment strategies.

Credential Authentication Technology/Boarding Pass Scanning Systems

The Credential Authentication Technology/Boarding Pass Scanning Systems (CAT/BPSS) provide TSOs with an effective tool to quickly detect fraudulent or altered documents, enhancing security and increasing efficiency. This equipment automatically and concurrently verifies passenger boarding passes and IDs that passengers present to TSA during the security checkpoint screening process, as well as those IDs presented by airport and airline personnel to access sterile areas.

We plan to conduct CAT/BPSS technology pilots in the coming months and throughput will be evaluated very closely as we determine the overall operational suitability of the various solutions. If testing proves successful, the technology could replace the current manual "lights and loupes" method of ID and boarding pass authentication.

Automated Wait Time

Automated Wait Time (AWT) systems utilize technology to monitor and track queuing traffic at the security checkpoint, enabling TSA to reallocate resources to areas of higher congestion and priority as needed. TSA preliminarily tested an AWT system at the TSA Systems Integration Facility (TSIF) and anticipates testing it in airports in the coming months.

Next Generation Advanced Technology X-Ray

TSA is in the process of upgrading currently deployed AT X-ray systems, as well as deploying next generation, or AT-2 systems. This technology is used to screen carry-on luggage at the security checkpoint. In addition to other upgrades that streamline the bag check process, next generation AT X-ray units feature enhanced explosive detection capabilities that enable TSA to detect new threats.

There are currently more than 1,000 AT units at nearly 100 airports. These systems enhance security effectiveness and efficiency, and deployments will continue into calendar year

2012. We are working closely with DHS S&T and our qualified vendors to assess the AT-2 system's capability to detect liquids, aerosols, and gels (LAG), which would help to expedite the secondary bag search process.

Bottled Liquids Scanners

Bottled Liquids Scanner (BLS) screening systems are used to detect potential liquid or gel threats which may be contained in a passenger's property while differentiating between liquid explosives and common, benign liquid such as baby formula and insulin. Next generation bottled liquids scanner screening systems have the ability to detect a wider range of explosive materials and use light waves to screen sealed containers for explosive liquids. TSA recently deployed 500 next generation BLS units to airports nationwide to add to the more than 1,000 BLS units currently deployed at 230 airports.

Shoe Scanning Detection Technology

Shoe Scanning Detection (SSD) technology is an advanced technology which would be capable of detecting both metallic and non-metallic threats concealed in passenger footwear without requiring passengers to remove their footwear at the checkpoint. DHS S&T recently issued a Broad Agency Announcement that supports R&D efforts to develop shoe scanner detection systems that meet TSA detection requirements.

Explosives Trace Detection

Explosives Trace Detection (ETD) technology is used at security checkpoints around the country to screen carry-on baggage and passengers for traces of explosives. Officers may swab a piece of luggage or passenger hands and then use ETD technology to test for explosives. The swab is then placed inside the ETD unit, which analyzes the content for the presence of potential explosive residue. TSA is expanding its use of ETD technology in airports as part of its layered approach to aviation security.

Explosives Detection Systems Recapitalization and Optimization

Over the next five years, a large number of Explosives Detection Systems (EDS) will reach the end of their useful life and replacing these aging units is a top priority. TSA will fund

recapitalization projects, which include the work required to remove the existing EDS, minimal modifications to the Baggage Handling System infrastructure, and the associated purchase and installation of the new EDS. TSA's plan to replace the aging EDS fleet of equipment will be prioritized based on a combination of age and maintenance data.

Risk Based Security

In the past, Administrator Pistole has spoken to this Subcommittee about TSA's risk-based approach to enhancing security. I would like to provide you with the current status of two of our new risk-based programs that are supported by technological advancements:

TSAPre✓™

This past October, TSA began testing a limited and voluntary passenger pre-screening initiative with a small known traveler population at four U.S. airports (Miami, Dallas-Ft. Worth, Detroit, and Atlanta). This pilot program will help assess measures designed to enhance security, by placing more focus on pre-screening individuals who volunteer information about themselves prior to flying in order to potentially expedite the travel experience. By learning more about travelers through information they voluntarily provide, and combining that information with our multi-layered system of aviation security, we can better focus our limited resources on higher-risk and unknown passengers. This new screening system holds great potential to strengthen security while significantly enhancing the travel experience, whenever possible, for passengers.

During this pilot, TSA is using pre-screening capabilities to make intelligence-based risk assessments for passengers who voluntarily participate in the TSA Pre✓™ program and are flying domestically from one of the four airport pilot sites. Eligible participants include certain frequent flyers from American Airlines and Delta Air Lines as well as existing members of U.S. Customs and Border Protection's (CBP) Trusted Traveler programs including Global Entry, SENTRI, and NEXUS who are U.S. citizens and are flying on participating airlines. The data collected from these pilot sites will inform our plans to expand the program to include additional airlines as well as other airports that participate in CBP's Global Entry program, once they are operationally ready.

TSA Pre✓™ passengers are pre-screened each time they fly from participating airports. If the indicator embedded in their boarding pass reflects eligibility for expedited screening, the passenger is able to use the TSA Pre✓™ lane. Because we know more about these passengers, TSA Pre✓™ travelers are able to divest fewer items, which may include leaving on their shoes, jacket, and light outerwear, as well as other modifications to the standard screening process. As always, TSA will continue to incorporate random and unpredictable security measures throughout the security process. At no point are TSA Pre✓™ travelers guaranteed expedited screening.

Transportation Security Officers (TSOs) in the four pilot airports are receiving very positive feedback from TSA Pre✓™ travelers while the two partner airlines have successfully demonstrated the technical capabilities required to participate in the program, thus paving the way for other airlines to follow. As we learn from these pilots, we are working closely with other airlines and airports to determine when they may be operationally ready to join. We are also working with CBP to ensure that individuals who want to apply for Trusted Traveler Programs are able to do so in an efficient manner.

Known Crewmember

We hold airline pilots responsible for the safety of the traveling public every time they fly an aircraft. It makes sense to treat them as our trusted partners. To build on our risk-based approach to security, we are currently testing another identity-based system to enable TSA security officers to positively verify the identity and employment status of airline pilots. The Known Crewmember program is a joint initiative between the airline industry (Air Transport Association) and pilots (Air Line Pilots Association, International (ALPA)), which allows uniformed pilots from 22 airlines to show two forms of identification that are checked against a database called the "Cockpit Access Security System (CASS), " which confirms identity. After more than two months into the pilot program, and with deployments nearly complete at the seven participating airports, over 59,000 uniformed pilots have been cleared through the process with an average of nearly 1,900 approvals per day. Both Known Crewmember and TSA Pre✓™ are clear examples of TSA's commitment to focusing its attention and resources on those who

present the greatest risk, thereby improving security and the travel experience for passengers across the country.

Conclusion

TSA will continue to enhance its layered security approach through state-of-the-art technologies, expanded use of existing and proven technology, passenger pre-screening and other developments that will continue to strengthen aviation security. Chairman Rogers, Ranking Member Jackson-Lee, I thank you for the opportunity to appear before you today, and I look forward to answering your questions about the use of innovative technology to provide additional layers of security to our nation's transportation systems.